US Army Corps of Engineers
Omaha District

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
&
FINDING OF NO SIGNIFICANT IMPACT

HOLE-IN-THE-ROCK BACKWATER EXCAVATION
MISSOURI RIVER FISH AND WILDLIFE MITIGATION PROJECT
THURSTON COUNTY, NEBRASKA
MISSOURI RIVER MILE 706
April 2013

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Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
APR 2013		**00-00-2013 to 00-00-2013**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Hole-in-the-Rock Backwater Excavation Missouri River Fish and Wildlife Mitigation Project Thurston County, Nebraska Missouri River Mile 706	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **U. S. Army Corps of Engineers,Omaha District ,1616 Capitol Avenue,Omaha,NE,68102**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Same as Report (SAR)**	**50**	

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In accordance with the National Environmental Policy Act (NEPA) and implementing regulations, a Supplemental Environmental Assessment (EA) has been prepared for the proposed backwater renovation at Hole-in-the-Rock in Thurston County, Nebraska. The purpose of the proposed action is to repair damages that were sustained during the 2011 flood event. The original project was created to mitigate for aquatic and terrestrial habitat losses that resulted from implementation of the Missouri River Bank Stabilization and Navigation Project. The proposed action is necessary to restore function for the original backwater project.

Three alternatives were considered for the renovation of the backwater at Hole-in-the-Rock. They include: restoring the entire backwater to a depth of approximately 5 feet below the August 50% exceedance profile, restore the backwater to its original constructed configuration which included two deep water overwintering holes for fish, and the No Action Alternative. Restoring the entire backwater to a depth of 5 feet below the August 50% exceedance profile was eliminated from further consideration because it would not provide adequate deep water habitat for over wintering fish.

The Supplemental EA and comments received from the resource agencies were used to determine whether the proposed action would require the preparation of an Environmental Impact Statement. All environmental, social, and economic factors relevant to the proposal were considered in the Supplemental EA. No significant adverse impacts to these resources are expected to occur. In fact, the proposed project would restore the original habitat quantity and quality to provide increased benefits to resident and migratory fish and wildlife species. The proposed action will be in compliance with applicable environmental statutes.

It is my finding, based on the Supplemental EA that the proposed Federal activity will not have any significant adverse impacts on the environment and will not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an Environmental Impact Statement will not be prepared.

Date: _____

_____

Joel R. Cross
Colonel, Corps of Engineers
District Commander

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SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

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1.0 INTRODUCTION

1.1 Background

This document supplements the document entitled: *Environmental Assessment with Finding of No Significant Impact, Hole-In-The-Rock Backwater Restoration Project, Missouri River Bank Stabilization and Navigation, Fish and Wildlife Mitigation Project, Thurston County, Nebraska, August 2004* (August 2004 EA). The August 2004 EA disclosed the potential environmental impacts for the Hole-in-the-Rock backwater restoration that sought to create an 8- to 9-acre backwater approximately 2,700 feet in length as part of the Missouri River Bank Stabilization and Navigation Fish and Wildlife Mitigation Project (Mitigation Project).

Historically, the Missouri River contained side channels that spread the river across the flood plain in a natural alluvial process producing numerous islands, channels, chutes, sandbars, backwater areas and wetlands. Due to increased water depth, turbulence, and heavy currents, the main channel of a large-river system such as the Missouri River offers little primary productivity. Biodiversity seems to be at its highest along the bank (Junk et al., 1989) and within these side chute and backwater structures. Many fish living in the main channel depend on these areas for shelter, spawning, and food (Junk et al., 1989).

The purpose and scope of this Supplemental EA are limited to cataloging the potential environmental effects of the proposed project and determining the best course of action for rehabilitating damages to the existing backwater that occurred as a result of the 2011 flood event.

1.2 Project Authority

The Missouri River Recovery Program (MRRP) was established by the U.S. Army Corps of Engineers (Corps) in 2003, which combined two related efforts including the responsibilities of compliance with the U.S. Fish and Wildlife Service (USFWS) 2003 Amendment to the 2000 Biological Opinion (BiOp) on the Operation of the Missouri River Main Stem Reservoir System, Operation and Maintenance (O&M) of the Missouri River Bank Stabilization and Navigation Project (BSNP), and Operation of the Kansas River Reservoir System, and acquiring and developing lands to produce habitat as directed by the Missouri River BSNP Fish and Wildlife Mitigation Project.

The proposed project would be constructed under the authority of the Missouri River BSNP. The Missouri River BSNP Mitigation Project of Missouri, Kansas, Iowa, and Nebraska was authorized by Section 601 (a) of the Water Resources Development Act (WRDA) of 1986 (Public Law [PL] 99-662). The authorization included the acquisition and development of 29,900 acres of land, and habitat development on an additional 18,200 acres of existing public land in the states of Iowa, Kansas, Missouri, and Nebraska.

The total amount of land authorized for mitigation by WRDA86 was 48,100 acres. Section 334(a) of WRDA99 (PL 106-53) modified the Mitigation Project by increasing the amount of acreage to be acquired and/or mitigated by 118,650 acres. As a result, the total amount of land authorized for mitigation is currently 166,750 acres.

Additionally, USFWS provided the Corps with a Reasonable and Prudent Alternative (RPA), which, if implemented, would preclude jeopardizing the three endangered species; the interior least tern (*Sterna antillarum athalassos)*, the piping plover (*Charadrius melodus*) and the pallid sturgeon (*Scaphirhynchus albus*). One element of the RPA is to create shallow water habitat (SWH) to help recreate a level of complexity to the river that existed prior to river regulation in order to aid in precluding jeopardy of the pallid sturgeon.

1.3 Brief Description of the Original Project

In 2006, an existing, degraded outlet channel that was mostly silted in and disconnected from the main channel of the Missouri River was excavated to create a backwater that provided approximately 8 to 9 acres of SWH along the right descending, or west, bank of the Missouri River at Hole-in-the-Rock near river mile (RM) 706 in Thurston County, Nebraska (refer to Figure 1). The BiOp defines SWH as water levels being less than 5 feet deep and velocities being less than 2.5 feet/second. Further clarification on the definition of SWH was provided by the USFWS on June 29, 2009, classifying SWH as habitat including sidechannels, backwaters, depositional sandbars detached from the bank and low-lying depositional areas. Key components of SWH are their dynamic characteristics of depositional and erosive areas, shallow waters intermixed with deeper holes, and comparatively lower current velocities and higher water temperatures than the main river channel.

Additionally, two overwintering holes approximately 300 feet long and approximately 10-12 feet deep during the winter when the main channel flows are significantly lower were added to the overall 2,700 foot length of the flow-through chute. The constructed bottom width of the backwater was approximately 50 to 75 feet with a 2 horizontal to 1 vertical (2:1) side slope on the landward side and 10:1 riverward slope. Also, 25 downed cottonwoods (*Populus deltoides*) were positioned along the entire shoreline of the backwater, with the exception of the northern shoreline. This large woody debris (LWD) was utilized to create emergent aquatic vegetation and habitat for fish species and aquatic invertebrates. The LWD also provided staging areas for shorebirds, wading birds and waterfowl.

All excavated material was discharged into the river through the use of a hydraulic dredge. Approximately 70,050 cubic yards were discharged when flows of the main channel were 25,000 cubic feet/second (cfs) or greater. Also, 7,200 tons of stone were removed from a 450 foot revetment section of existing rock. This stone was stockpiled by the Corps to be used in future projects.

The entire project site is located within the Omaha Indian Tribal Reservation. The original backwater design was intended to mimic historic, naturally occurring habitat that was found along the Missouri River and its floodplain prior to channelization.

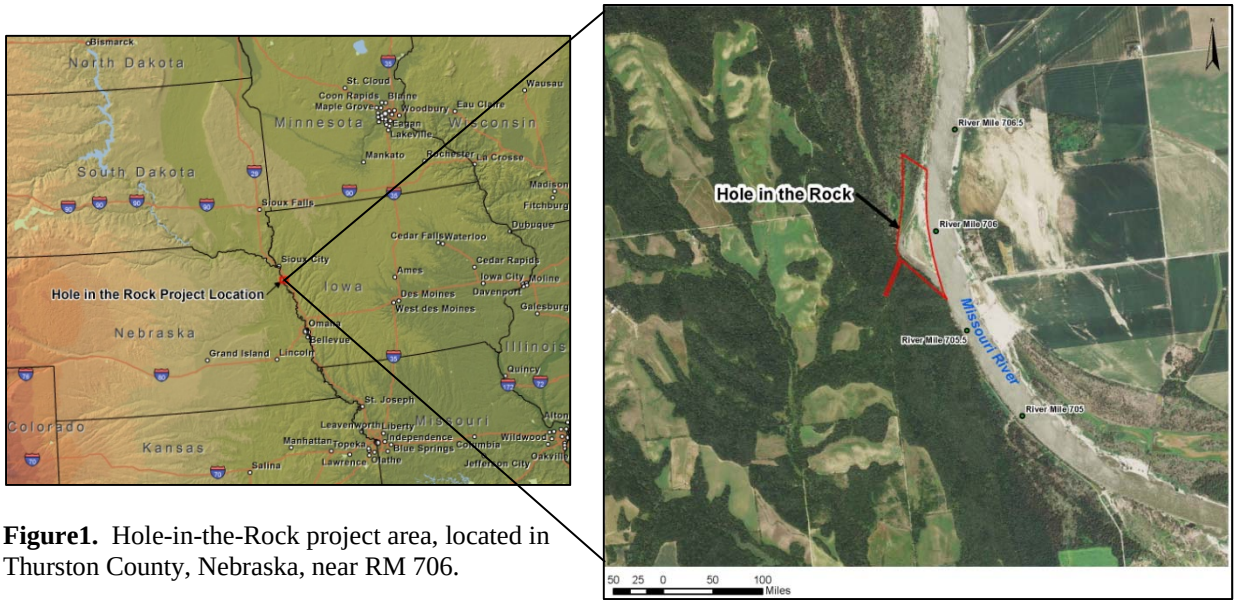

Figure1. Hole-in-the-Rock project area, located in Thurston County, Nebraska, near RM 706.

2.0 PURPOSE AND NEED

The purpose of the proposed project is to restore the SWH quality and function of the previously constructed backwater at Hole-in-the-Rock. High water occurred during the 2011 flood event and deposited significant amounts of sediment in the constructed backwater resulting in a loss of depth diversity, and threatening the connectivity between the backwater and the main river channel. Once this connectivity is lost, the backwater would no longer provide quality habitat that would benefit the pallid sturgeon and other native fish and aquatic species. In addition, the 2011 flood filled in the deep overwintering holes that were constructed in the backwater as part of the original project. These deep holes provided depth diversity within the backwater and a place for fish that prefer still water to survive over the winter when the river levels drop and the water begins to freeze. Overwintering habitat is thought to be a key habitat that is lacking within the channelized Missouri River by many of the state and federal fish and wildlife agencies. Incorporating depth diversity into aquatic habitat restoration projects increases habitat quality that results in increased productivity as well as species diversity within the constructed habitat area.

3.0 ALTERNATIVES CONSIDERED

3.1 Alternative 1: No Action

Under the No Action Alternative, there would be no repairs to the previously constructed backwater. The site would continue to transition to terrestrial habitat and connectivity would be lost between the backwater and the main channel. The aquatic habitat benefits would degrade and the site would no longer provide functioning SWH. The No Action Alternative would not fulfill the goal of the backwater's original design purpose which was to mitigate for the loss of aquatic habitat in accordance with the Mitigation Project and the 2003 Amended BiOp.

3.2 Alternative 2: Restore Backwater to a Depth Equal to 5 Feet Below the August 50% Exceedance Water Surface Profile

Under this alternative, deposited material within the backwater would be excavated to a depth equal to 5 feet below the August 50% exceedance water surface profile. This would result in water depths of 5 feet or less below the water surface elevation at 50% of the August duration flow. Under this alternative, roughly 8 acres of quality SWH would be restored by excavating approximately 7,500 cubic yards (cy) of material with a hydraulic dredge and discharging the material into the Missouri River.

3.3 Alternative 3: Restore Backwater to Original Constructed Configuration

In order to restore the backwater to its original configuration, approximately 50,000 cy of material would be removed in order to re-establish approximately 8 acres of SWH. The methods would be similar to Alternative 2 but would also include the removal of deposited sediment from the two, 300 feet long and 10 to12 feet deep overwintering holes that were constructed as part of the original project (refer to Appendix A). These overwintering holes would be excavated to the same bottom width as the bed of the backwater in the location they are constructed. Holes would be approximately 17 feet deep below the August 50% exceedance level, over 17 feet deep during the navigation season, and 10 to 12 feet deep during winter. This would add depth diversity to the backwater and improve the quality of the habitat. Also, some bank shaping may take place in order to restore the 2:1 landward slope and 10:1 riverward slope.

4.0 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

4.1 Alternative 2: Restore Backwater to a Depth of 5 feet below the August 50% Exceedance Profile

Alternative 2 was eliminated from further consideration because it would only remove the deposited sediment for the backwater to be restored to a depth of 5 feet below the August 50% exceedance level, and would not remove the material from the overwintering holes. The importance of overwintering holes is imperative to fish survival (Rabeni, 1990), because deep, off-channel areas provide refuge from extreme cold. This is because during winter, the warmest, most dense water (4˚C or 39˚F) can be found in still, deep areas with colder less dense water and ice accumulating at the surface (Brown et al., 2011).

5.0 ALTERNATIVES CARRIED FORWARD FOR FURTHER CONSIDERATION

5.1 Alternative 1: No Action

Under the No Action Alternative, no action would be taken to restore the desired depths within the Hole-in-the-Rock backwater, or improve the connectivity between the backwater and the Missouri River. The No Action Alternative was carried forward for further consideration because it serves as a baseline upon which to compare against the action alternatives.

5.2 Alternative 3: Restore Backwater to Original Constructed Configuration

Alternative 3 was carried forward for further consideration because restoring the backwater to its original design configuration would maximize diversity, quality, and productivity of the backwater. The deep holes provide depth diversity which serves many vital functions throughout all seasons.

In the summer, varying depths provide quality habitat that caters to an assortment of fish species and communities and different size classes. In the winter, depth provides refuge from low water levels and decreased temperatures (Rabeni, 1990).

Additionally, the steeper 2:1 landward sideslopes provide cut banks, an erosional feature created by the natural fluvial process that occurs in meandering rivers such as the Missouri River. Conversely, the 10:1 riverward sideslopes provide shallow embankments that are conducive for vegetative growth, staging areas for wading and shorebirds, and shallow water areas for smaller fish species such as minnows and larval fish.

Backwaters have slower water velocity than that of the main channel. It has been generally accepted that since the BSNP, not only has water velocity in the main channel increased, but side chutes and backwaters that once provided these areas of velocity breaks have sufficiently decreased (USFWS, 2000, 2003). Because of the still water conditions of backwaters, they are highly productive for aquatic and emergent vegetation which in turn provides a food source for various aquatic species, shorebirds, wading birds and waterfowl. Several studies have also concluded that backwaters are important for fish spawning and as nursery areas. Larval and juvenile fish are found more commonly in backwaters than the main channel (Sheaffer and Nickum, 1986; Brown and Coon, 1994).

6.0 EXISTING CONDITIONS

The current environmental conditions at the project site are essentially the same as they were before the original project was constructed and are incorporated by reference to the August 2004 EA. Those resources include physiography/topography, soils, cropland/prime farmland, fluvial characteristics, wetlands and riparian vegetation, wildlife, socioeconomic resources and cultural resources. The resources listed below provide additional, new information where it exists and brings important information from previous documentation forward where it conveys current conditions to the reviewers of this document and for the decision maker.

6.1 Water Quality

Historically, the Missouri River was an extremely turbid body of water, due to the natural processes of fluvial movements, bank erosion and sedimentation were common. Native fish species adapted to turbidity, but as a consequence of the construction of the BSNP, suspended sediment loads have severely decreased, up to 99 percent in areas of close proximity to main stem dams. Releases from Gavins Point Dam, located at RM 811.1, are cooler, free of sediment, low in nutrients and saturated with dissolved oxygen. The further downstream from Gavins Point, water temperature, turbidity and nutrient loads increase.

Nebraska's water quality standards identify the Missouri River from the Big Sioux River to the Platte River as designated Segment MT1-10000. The proposed project location falls within Segment MT1-10000. Segment MT1-10000 is listed on Nebraska's 2012 Section 303(d) list as impaired due to a fish consumption advisory. The identified parameters of concern are Cancer Risk & Hazard Index Compounds, specifically, Dieldrin and PCBs (polychlorinated biphenyl). Previously, the state of Nebraska had indicated that due to the 303(d) listing of Segment MT1-10000 no dredged material can be discharged into the Missouri River unless concerns regarding Dieldrin and PCBs were addressed. Nebraska has promulgated acute and chronic surface water quality criteria for Dieldrin and PCBs.

The acute and chronic criteria for Dieldrin are, respectively, 0.24 µg/L (concentration not to be exceeded at any time) and 0.00054 µg/L (24-hour average concentration). The acute and chronic criteria for PCBs are, respectively, 2.0 µg/L (concentration not to be exceeded at any time) and 0.00064 µg/L (24-hour average concentration). The chronic criteria for Dieldrin and PCBs are defined as human health criteria at the 10^{-5} risk level for carcinogens based on the consumption of fish and other aquatic organisms. Previously, Nebraska indicated that if levels of Dieldrin and PCBs determined from elutriate analysis of proposed dredge materials were found to be below the state water quality criteria this would meet potential concerns of the State regarding Dieldrin and PCBs in the discharge of dredged material. The material being dredged and discharged is primarily sand and silty/sand material. Elutriate samples from the site, three sediment and water samples, were collected in 2004 prior to the construction of the original project and it was noted that no problems were encountered with the samples (refer to Appendix C).

6.2 Air Quality

The state of Nebraska's air quality regulations are primarily based on regulations developed by the Environmental Protection Agency (EPA) to address Clean Air Act (CAA) requirements. The CAA gives the EPA authority to establish national ambient air quality standards (NAAQS). These standards are regulated by the Nebraska Department of Environmental Quality (NDEQ)'s Air Quality Division.

Current sources of air pollutants in the proposed project area are primarily from agriculture and recreational boating activities. In 2004, prior to the construction of Hole-in-the-Rock, an air quality monitoring station existed in Thurston County that collected air quality data as part of the Interagency Monitoring of Protected Visual Environments (IMPROVE) program, however IMPROVE was not used to officially test for compliance with NAAQS and was officially shutdown in 2008. Thurston County, as most counties in Nebraska, does not have a NAAQS monitor, therefore there is no data to classify Thurston County as being in compliance with NAAQS. Thurston County has received a status of "Not in Attainment/Not Classifiable" because there is no available data to verify compliance with NAAQS (NDEQ, 2013).

6.3 Noise

Sources of noise in the proposed project area result from recreational boating, commercial barges, hunting and agricultural activities, however, these are all seasonal activities. Background noise levels are considered generally low.

6.4 Federally Threatened and Endangered Species

The USFWS has already considered the biological effects of the construction of SWH in the development of the RPA for the BiOp and determined that it is an integral component to avoid jeopardy to listed species. Therefore, the Corps is not required to provide a Biological Assessment (BA) for this action. However, for purposes of the National Environmental Policy Act (NEPA), this EA discloses the effects and benefits of the project on endangered species. The Corps did request that USFWS provide a list of federally listed threatened or endangered species that may be found in the area. A letter dated March 7, 2013 determined two federally endangered species that may be impacted by the proposed project, the pallid sturgeon and the western prairie fringed orchid (*Platanthera praeclara*).

6.4.1 Pallid Sturgeon

Prior to the original project in 2004 there was no habitat for pallid sturgeon in the location where the backwater was constructed, because the existing habitat was mostly terrestrial habitat formed by sedimentation that occurred between dikes built to help for the main navigation channel as directed from the BSNP. This condition is represented at the site today due to sediment being deposited during the 2011 flood. Because pallid sturgeon are main channel obligates, there was likely very little use of the backwater by adult pallid sturgeon after it was constructed. However, SWH, such as backwaters, are critical refuge areas for larval pallid sturgeon. During larval drift, it is hoped a certain amount of larvae become entrained in these SWH areas, as these habitats provide favorable conditions until exogenous feeding can occur (Wildhaber et al., 2007). Adult pallid sturgeons may use backwaters for foraging grounds as they are highly productive habitats that provide an ample source of fish and invertebrates that pallid sturgeons feed on. As such, the backwater that was previously constructed provided both direct and indirect benefits to the species. These benefits are no longer provided due to sedimentation.

6.4.2 Western Prairie Fringed Orchid

The western prairie fringed orchid is a federally threatened prairie species. This plant is often found in mesic to wet meadows. Declines in populations have been caused by anthropogenic activities such as conversion of habitat to agricultural production and the construction of the BSNP. However, according to correspondence from the USFWS (refer to Appendix B) there is no indication of this species in the proposed project area, nor is there indication of the potential of this species to occur in the area as the proposed project area has been previously disturbed by construction and flooding and no prairie is on site.

6.5 Species of Special Concern

6.5.1 Migratory Birds

All federal agencies are subject to the provisions of the Migratory Bird Treaty Act (16 U.S.C. 703-711) which regulates the take of any migratory bird species. If a Corps project is expected to impact any migratory bird species, coordination with USFWS is typically initiated in order to minimize impacts to these species. According the USFWS, most migratory songbirds along the Missouri River in Nebraska and Iowa nest between April 1 and July 15. Raptors generally nest earlier than other birds, and their primary nesting period is between February 1 and July 15. Some other birds nest later in the year such as the sedge wren (*Cistothorus platensis*) which nests between July 15 and September 10.

6.5.2 Bald Eagle

Upon the completion of the original project at Hole-in-the-Rock, the bald eagle (*Haliaeetus leucocephalus*) was federally listed as a threatened species under the Endangered Species Act (ESA) in 1973 though they were officially declared as endangered prior to the ESA in 1967. On August 9, 2007, the bald eagle was removed from the federal list of threatened and endangered species but continues to be protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), Migratory Bird Treaty Act (16 U.S.C. §§ 703–712), and Lacey Act (16 U.S.C. § 701). Bald eagles are known to inhabit forested areas along the Missouri River. These birds tend to construct their nests in mature trees near aquatic habitats, especially in cottonwood trees. Bald eagle nests are typically easy to identify due to their large size and their height (they can be eight feet or more in diameter and 12 feet or more in height). They feed primarily on fish and

crippled waterfowl, but may feed on upland game birds and other birds, carrion, and small rodents. No bald eagle nests are known to exist within the proposed project area, however prior to any construction, the area would be surveyed for eagle nests and eagles exhibiting nesting behavior.

6.5.3 Lake Sturgeon

The lake sturgeon (*Acipenser fulvescens*) is currently a state listed species. Lake sturgeon are endemic to the Great Lakes Basin and adjoining waters and, like the pallid sturgeon, lake sturgeon migrate in freshwater rivers to spawn and spawn in fast-flowing waters. At one time, populations were abundant, but it is thought that commercial fishing and the lock and dam systems on the big rivers that have prevented access to spawning habitat have both contributed to population declines. Additionally, sturgeon species are slow to reach sexual maturity, individuals are between 10 and 20 years old before they can spawn (Auer, 1996).

Like the pallid sturgeon, lake sturgeon also could potentially benefit from the proposed project as they have many of the same habitat preferences and life history of the pallid sturgeon.

6.5.4 Sturgeon Chub

The sturgeon chub (*Macrhybopsis gelida*) was petitioned for listing under Section 7 of the ESA in 1994 based on population declines, however, bottom trawling in the main channel of the Missouri and Mississippi Rivers indicated species population was faring better than previously thought. In 2001 the USFWS determined the species was not a candidate for listing at that time (Rahel and Thel, 2004). However, in certain parts of the sturgeon chubs' natural range, it has been listed as state threatened, such as in Thurston County, Nebraska.

This small member of the Cyprinidae family has a relatively short life span, the oldest recorded sturgeon chub was 4 years old, though it is thought most do not live to age 3. Sturgeon chub spawn around the age of 2 from early June to late July. They are commonly collected in gravel rapids as they require high turbidity and swift currents, though they are frequently caught in depths of less than 3 feet (USGS 2013). While sturgeon chub do favor shallower depths of water, it is likely that habitat such as backwaters like Hole-in-the-Rock, have too slow a water velocity to provide adequate habitat for this species. It is not anticipated this species will be found at or utilize the proposed project area.

7.0 ENVIROMENTAL CONSEQUENCES

The environmental consequences of the proposed project on many of the resources within the affected environment are essentially the same as those described in the original environmental assessment. These resources include physiography/topography, soils, cropland/prime farmland, fluvial characteristics, wetlands and riparian vegetation, wildlife and socio-economic resources. For information on the environmental consequences of the proposed project on the previously listed resources, please refer to the original EA. The environmental consequences of the proposed action on the remaining resources are described below.

7.1 Water Quality

No Action. Under the No Action Alternative, no construction or the associated discharge of dredged material would take place at the proposed project site. The backwater would continually become shallower and water quality would deteriorate. The site will likely eventually convert to

upland habitat through further sedimentation processes; however, conditions in the main channel would likely not change.

Alternative 3. Discharged material would temporarily affect water quality for a short distance downstream of the discharge pipe. Dredged material would be at the highest concentration level at the discharge point. Water turbidity would temporarily increase during construction. As the discharged material moves downstream of the pipe, the heavier material would settle to the bottom and suspended sediment and turbidity would rapidly decrease to background levels. Based on the size of the proposed backwater at Hole-in-the-Rock, and past experience from other dredging projects, it is likely that the size of the dredge that would be used would be between 8 and 18 inches. The calculated discharge rate for an 8-inch dredge would be approximately 7 cfs, and the approximate discharge rate for an 18-inch dredge would be approximately 35 cfs. Based on these discharge rates, the dredge would be expected to contribute between .0002% and .001% of the Missouri River flow at a Missouri River discharge rate of 34,800 cfs. Therefore, the contribution of dredged material to the Missouri River would be insignificant compared to the amount of flow in the river.

The Corps has determined that the proposed dredging activities at Hole-in-the-Rock fit the requirements for the use of Regional General Permit (RGP) 11-02. This RGP was developed to provide a mechanism for people in Nebraska and Iowa to conduct certain activities to help recover from flood damages that occurred as a result of the 2011 flood on the Missouri River. This permit authorizes 11 pre-defined activities for reconstruction and repair work for flood damaged areas (refer to Appendix D) which include the restoration of channels to pre-flooding alignment and capacity as well as in-stream disposal of flood deposited material up to 100,000 cy per activity. This RGP was developed in cooperation with multiple state and federal agencies. In addition, NDEQ, the Iowa Department of Natural Resources (IDNR), and the EPA have all issued Section 401 Water Quality Certification for this RGP. The proposed project at Hole-in-the-Rock would remove approximately 50,000 cy of flood deposited material from a previously constructed backwater channel. This activity would meet the RGP 11-02 general permit conditions. No long-term consequences to water quality are expected and the discharge would not pose an adverse impact to human health or wildlife.

7.2 Air Quality

No Action. Under the No Action Alternative, no construction would take place; thus, no impacts to air quality would occur. Ambient air levels would remain static, and only be affected by processes already occurring in the proposed project area.

Alternative 3. Excavation of the backwater would cause temporary and minor impacts to local air quality in the form of increased particulate matter (dust and exhaust). After construction, air quality would revert to pre-construction conditions. As such, the proposed project would not cause significant impacts to air quality.

7.3 Noise

No Action. Under the No Action Alternative, no construction would take place; thus, no noise impacts would occur.

Alternative 3. Minor increases in noise from construction equipment are expected at the project site during construction activities. Best management practices, such as avoiding idling construction equipment when not immediately needed, would be implemented to reduce noise impacts; thus, no significant noise impacts would occur. No long term noise would result from the project.

7.4 Fish

No Action. Under the No Action Alternative, the constructed backwater would continue to fill with sediment, degrading its habitat quality, and eventually converting the backwater into terrestrial habitat. No benefits to aquatic species, such as the pallid sturgeon, would occur, therefore, the proposed project's purpose and need would not be met.

Alternative 3. With construction of the proposed project, fish would be temporarily displaced from portions of the project area during construction but would return to the area soon after construction is completed. Minor increases in turbidity are expected to occur at the discharge pipe and near the cutter head, but native fish of the Missouri River have adapted to turbid conditions that existed prior to construction of the dams and the BSNP. Dredge material released in the river is also not expected to create water quality issues for fish (see Section 7.1). As such, the temporary impacts of dredging to fish is not considered significant.

Following construction, the diversity of aquatic habitat associated with backwater channels would provide for the needs of many different species of fish. Feeding, breeding, and sheltering habitats for numerous species would be re-created. The proposed supplemental action would have beneficial effects for native species by providing habitats actually utilized by different life stages and food production provided for by the increased primary productivity that would in turn become available to the main channel.

7.5 Federally Threatened and Endangered Species

No Action. Under the No Action Alternative, the area would continue to transition into a mostly terrestrial habitat that would no longer benefit the endangered pallid sturgeon.

Alternative 3. While "shallow water" has been shown to be used by adult pallid sturgeon, it may not necessarily provide preferred habitat. However, this proposed project would provide habitat needed to support components of the ecosystem that are thought to be imperative to the pallid sturgeon. The primary food eaten by the pallid sturgeon includes mostly aquatic invertebrates, principally early life stages of insects, and fish (USFWS, 1993). It is anticipated that the habitat that this project would restore would lead to increased primary and secondary production, thus increasing production of aquatic invertebrates and minnow species at the site for eventual utilization by the pallid sturgeon adults. The area is also though to provide the opportunity for free swimming and drifting fish larvae and juvenile fish to find areas of refuge from the main channel. The backwater areas will contain accumulated organic material, providing an excellent forage base for year-of-young (YOY) pallid sturgeon. As such, the area would provide suitable nursery and rearing habitat which will assist in recruiting these fish into later stages of development.

It is important to note that a there is a slight risk of entrainment while dredging the inlet, however the USFWS has permitted incidental take for pallid sturgeon based on the premise that the RPA in the 2003 Amendment to the BiOp will be implemented.

7.6 Species of Special Concern

7.6.1 Migratory Birds

No Action. Under the No Action Alternative no dredging would take place, thus no impacts would occur.

Alternative 3. This dredging project is expected to have minimal if any site-specific adverse impacts on migratory birds. No affect to neotropical migrants is expected either as no tree removal will occur. Disturbance of the area during project construction may temporarily deter use of the habitat, however, disruption will be attempted to be kept at a minimum.

7.6.2 Bald Eagle

No Action. Under the No Action Alternative, no dredging would take place, thus no impacts would occur to the bald eagle.

Alternative 3. Bald eagles are a riparian associated species, and they are known to utilize the trees along the riverbank in the proposed project area. Currently, there are no known nest sites within 650 feet of the proposed project area. Care will be taken to minimize any impact to this species. If a new nest is located within 650 feet of the proposed project area, construction would immediately stop until the young eagles fledge or the adult eagle has abandoned its nest.

7.6.3 Lake Sturgeon

No Action. Under the No Action Alternative, the habitat quality of the backwater would continue to degrade, which may still remain conducive to generalist species, but would not be advantageous to species of special concern that are historically adapted to specialized habitats more natural to the Missouri River, like that provided by backwaters.

Alternative 3. Of the state listed species found in Thurston County, construction of the proposed project is expected to benefit species like the lake sturgeon to the greatest extent. Lake sturgeon have much of the same behavior and habitat preferences as the pallid sturgeon, so the reconstruction of the backwater would likely be advantageous for this species as well.

7.6.4 Sturgeon Chub

No Action. Under the No Action Alternative, the area would continue to degrade, removing habitat diversity that was once common to the Missouri River. However, the main channel habitat where sturgeon chub are thought to primarily reside would likely not change.

Alternative 3. Sturgeon chub primarily tend to reside in the main channel and in more turbid conditions (USGS, 2013) than that provided by a backwater. Because of this, it is not expected sturgeon chub will be present at the proposed project site, however, it is important to note, there may be a slight possibility of entrainment during the activities of dredging. Temporarily disturbing the backwater during the restoration project is expected to interrupt behavior of

species which utilize this area and the adjacent area. Disruption of these species will be attempted to be kept at a minimum.

7.7 Cultural Resources

No Action. Under the No Action Alternative, no impacts to cultural resources would occur.

Alternative 3. A cultural resources literature search and a reconnaissance survey of Hole-in-the Rock were conducted prior to construction of the original restoration project in 2004. Two prehistoric sites are located in the uplands overlooking, but outside of, the project area. Two historic steamboat wrecks, the *Gus Lynn* and the *Eclipse* were reported to be located within the two-mile radius of the project. No new historic properties were recorded during the survey, and no additional studies were recommended. The original construction did not disturb any cultural resources.

Prior to the original restoration project, the Corps provided a cultural resources reconnaissance report to the Nebraska State Historical Society, and asked for its concurrence with a No Effect determination. The Nebraska State Historical Society, in a letter dated March 11, 2004 concurred with the findings of the report, agreeing that the proposed project would not affect historic properties.

An updated file search was conducted in April 2013, and revealed no subsequent recordation of historic properties. Provided the repair work is confined to the footprint of the previous construction and designated borrow areas, the Omaha District believes the current project will have No Effect to Historic Properties. In the unlikely event of an unanticipated discovery of cultural resources, work will halt immediately and the district archeologist will be contacted. The work will not continue until the find is inspected by a qualified archeologist. If it is determined that the discovery requires further consultation, the Corps will consult with the Nebraska State Historical Preservation Officer.

8.0 CUMULATIVE IMPACTS

The combined incremental effects of human activity are referred to as cumulative impacts (40CFR 1508.7). While these incremental effects may be insignificant on their own, accumulated over time and from various sources, they can result in serious degradation to the environment. The cumulative impact analysis must consider past, present, and reasonably foreseeable actions in the study area. The analysis also must include consideration of actions outside of the Corps, to include other state and federal agencies. As required by NEPA, the Corps has prepared the following assessment of cumulative impacts related to the alternative being considered in this Supplemental EA.

Substantial cumulative impacts have occurred throughout the Missouri River, which likely contributed to the decline of federal and state listed threatened and endangered species known to occur within and along the Missouri River. Anthropogenic alteration of the river hydrographs and dynamic processes has resulted in dramatic changes, and the loss of properly functioning conditions.

In 2006, approximately 8 acres of backwater were created within the project area. Overall, the supplemental action would rehabilitate this existing backwater. Although this individual project

would not restore all natural processes lost, halt the decline of species of interest, or substantially improve habitat along the entire Missouri River; it does have the potential to provide some incremental cumulative benefits to the Missouri River ecosystem. When the benefits of this project are combined with those of other Missouri River Mitigation Project successes, this project likely has beneficial impacts to fish and wildlife species along the river, and incrementally reduces the adverse cumulative effects that have already occurred.

9.0 ENVIROMENTAL COMPLIANCE

American Indian Religious Freedom Act (AIRFA) of 1978, 42 U.S.C. 1996. *In compliance*. AIRFA protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites. The Hole-in-the-Rock project would not adversely affect the protections offered by this Act. Access to sacred sites by Tribal members would not be affected.

Bald and Golden Eagle Protection Act, 16 U.S.C. Sec. 668, 668 note, 669a-668d. *In compliance*. This Act prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions for the scientific or exhibition purposes, for religious purposes of Indian Tribes, or for the protection of wildlife, agriculture or preservation of the species. The proposed project would have no adverse effects on the bald eagle as no trees would be removed for the proposed project and prior to construction a nest survey would be conducted. If any nests are found within a 650 feet radius of the project location, the USFWS will be contacted.

Clean Air Act, as amended, 42 U.S.C. 185711-7. et seq. *In compliance*. The purpose of this Act is to protect public health and welfare by the control of air pollution at its source and to set forth primary and secondary National Ambient Air Quality Standards to establish criteria for states to attain, or maintain. Some temporary increases in emissions may occur during construction activities; however, air quality is not expected to be significantly impacted to any measurable degree by the supplemental action.

Clean Water Act, as amended. (Federal Water Pollution Control Act) 33 U.S.C. 1251. et seq. *In compliance*. The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters (33 U.S.C. 1251). The Corps regulates discharges of dredged or fill material into waters of the United States pursuant to Section 404 of the Clean Water Act. The permitting authority applies to all waters of the United States including navigable waters and wetlands. The selection of disposal sites for dredged or fill material is done in accordance with the Section 404(b)(1) guidelines, which were developed by the EPA (see 40 CFR Part 230). The proposed project meets the criteria for use of Regional General Permit 11-02 (refer to Appendix D), which allows for the discharge of up to 100,000 cy of material recently deposited by the 2011 flood. Section 401 water quality certification has been granted by the EPA for projects on Tribal land that meet the criteria of the regional general permit. A letter dated February 19, 2013 was sent to the EPA stating the construction intentions of the proposed project.

Comprehensive Environmental Response Compensation and Liability Act (CERCLA). *In compliance*. Typically CERCLA is triggered by (1) the release or substantial threat of a release of a hazardous substance into the environment; or (2) the release or substantial threat of a release of any pollutant or contaminant into the environment which presents an imminent threat to the

public health and welfare. To the extent such knowledge is available, 40 CFR Part 373 requires notification of CERCLA hazardous substances in a land transfer. This project will not involve any real estate transactions.

Endangered Species Act, as amended. 16 U.S.C. 1531, et seq. *In compliance*. Section 7 (16 U.S.C. 1536) states that all federal departments and agencies shall, in consultation with and with the assistance of the Secretary of the Interior, ensure that any actions authorized, funded, or carried out by them do not jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary to be critical. The proposed project is intended to benefit the endangered pallid sturgeon and other native Missouri River fish and it has been coordinated with the USFWS. A letter, dated February 14, 2013, was sent to the USFWS stating that the proposed project consisted of recreating SWH that was previously constructed and altered by the 2011 flood. The intent of SWH creation is in concurrence with the BiOp to provide lost habitat to support the endangered pallid sturgeon. In a response letter from the USFWS, dated March 7, 2013, the USFWS stated it had no objections to the proposed project as the Corps is improving habitat for the benefit of pallid sturgeon.

Environmental Justice (E.O. 12898). *In compliance*. Federal agencies shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States. The project does not disproportionately impact minority or low-income populations.

Farmland Protection Policy Act (Subtitle I of Title XV of the Agriculture and Food Act of 1981), effective August 6, 1984. *In compliance*. This Act instructs the Department of Agriculture, in cooperation with other departments, agencies, independent commissions, and other units of the Federal Government, to develop criteria for identifying the effects of Federal programs on the conversion of farmland to nonagricultural uses. A letter, dated February 14, 2013, was sent to the Natural Resources Conservation Service (NRCS) to solicit any commentary on prime agricultural lands.

Federal Water Project Recreation Act, as amended, 16 U.S.C. 460-1(12), et seq. *In compliance*. The Act establishes the policy that consideration be given to the opportunities for outdoor recreation and fish and wildlife enhancement in the investigating and planning of any federal navigation, flood control, reclamation, hydroelectric or multi-purpose water resource project, whenever any such project can reasonably serve either or both purposes consistently. The purpose of this project can be considered fish and wildlife enhancement and it will not negatively impact recreational use of the river.

Fish and Wildlife Coordination Act. 16 U.S.C. 661 et seq. *In compliance*. A letter dated February 14, 2013 was prepared by the Corps of Engineers and sent to the USFWS and the Nebraska Game and Parks Commission (NGPC) to solicit comment on the proposed project. Both agencies stated that they had no objections to the proposed project. No further action under the Fish and Wildlife Coordination Act is required.

Floodplain Management (E.O. 11988). *In compliance*. E.O. 11988 requires federal agencies provide leadership and take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains. These requirements apply in carrying out its responsibilities for 1) acquiring, managing, and disposition of federal lands and facilities; 2) providing federally undertaken, financed, or assisted construction and improvements; and 3) conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities. This project has been reviewed by the Omaha District Flood Risk and Floodplain Management Section and will not adversely affect the flood holding capacity or flood surface profiles of any stream, as such the project is in compliance with the requirements of E.O. 11988.

Land and Water Conservation Fund Act (LWCFA), as amended, 16 U.S.C. 4601-4601-11, et seq. *Not applicable.* Planning for recreation development at Corps projects is coordinated with the appropriate states so that the plans are consistent with public needs as identified in the State Comprehensive Outdoor Recreation Plan. The Corps must coordinate with the National Parks Service (NPS) to ensure that no property acquired or developed with the assistance from this Act will be converted to other than outdoor recreation uses. If conversion is necessary, approval of NPS is required, and plans are developed to relocate or re-create affected recreational opportunities. No lands involved in the proposed project were acquired or developed with LWCFA funds.

Migratory Bird Treaty Act of 1918 as amended, 16 U.S.C. 703-711, et seq. *In compliance*. The Migratory Bird Treaty Act of 1918 (MBTA) is the domestic law that affirms, or implements, the United States' commitment to four international conventions with Canada, Japan, Mexico and Russia for the protection of shared migratory bird resources. The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts and nests. The take of all migratory birds is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent over utilization. Executive Order 13186 (2001) directs executive agencies to take certain actions to implement the act. The Corps would attempt to minimize impact on migratory birds or their nests during construction of the proposed project.

National Environmental Policy Act (NEPA), as amended, 42 U.S.C. 4321, et seq. *In compliance*. This supplemental environmental assessment has been prepared for the proposed action and to satisfy the NEPA requirement. An Environmental Impact Statement is not required.

National Historic Preservation Act, as amended. 16 U.S.C. 470a, et seq. *In compliance*. No cultural resources were found to occur in the proposed project area. There is always potential for an unanticipated discovery of cultural resources during construction activities. In the event that historic resources are uncovered, work would be halted immediately and a district archeologist would be notified. The work would not be continued until the area is inspected by a staff archeologist. If he or she determines that the resources require further consultation, he or she will notify the Nebraska State Historic Preservation Office.

Noise Control Act of 1972, 42 U.S.C. 4901 et seq. *In compliance*. This Act establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. Federal agencies are required to limit noise emissions to within compliance levels. Noise emission levels at the project site will increase above current levels temporarily due to construction; however, appropriate measures will be taken to keep the noise level within the compliance levels.

North American Wetlands Conservation Act, 16 U.S.C. Sec. 4401 et seq. *Not applicable.* This Act establishes the North American Wetlands Conservation Council (16 U.S.C.4403) to recommend wetlands conservation projects to the Migratory Bird Conservation Commission. Section 9 of the Act (16 U.S.C.4408) addresses the restoration, management, and protection of wetlands and habitat for migratory birds on federal lands. Federal agencies acquiring, managing, or disposing of federal lands and waters are to cooperate with USFWS to restore, protect, and enhance wetland ecosystems and other habitats for migratory birds, fish and wildlife on their lands, to the extent consistent with their mission and statutory authorities.

Protection of Wetlands (E.O.11990). *In compliance*. Federal agencies shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agencies responsibilities. According to the 1987 National Wetlands Inventory Map, the proposed project area is predominantly surrounded by palustrine emergent seasonally flooded wetland.

Rivers and Harbors Act, 33 U.S.C. 401, et seq. *In compliance*. This Act prohibits the unauthorized obstruction or alteration of any navigable water of the United States. This section provides that the construction of any structure in or over any navigable water of the United States, or the accomplishment of any other work affecting the course, location, condition, or physical capacity of such waters is unlawful unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army. A Section 10 permit is not required for Corps projects.

Watershed Protection and Flood Prevention Act, 16 U.S.C. 1101, et seq. *In compliance*. This Act authorizes the Secretary of Agriculture to cooperate with states and other public agencies in works for flood prevention and soil conservation, as well as the conservation, development, utilization and disposal of water. This Act imposes no requirements on Corps Civil Works projects.

Wild and Scenic Rivers Act, as amended, 16 U.S.C. 1271, et seq. *Not applicable.* This Act establishes that certain rivers of the Nation, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The area in which the proposed activity would occur is not designated as a wild or scenic river, nor is it on the National Inventory of Rivers potentially eligible for inclusion.

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11.0 PREPARER

This Supplemental EA and the associated Finding of No Significant Impact (FONSI) were prepared by Ms. Rebecca Bozarth, Environmental Resource Specialist. The address of the preparer is: U.S. Army Corps of Engineers, Omaha District; PM-AC, 1616 Capitol Avenue, Omaha, Nebraska 68102.

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Appendix A

Project Maps and Specifications

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

HOLE-IN-THE-ROCK BACKWATER EXCAVATION
MISSOURI RIVER FISH AND WILDLIFE MITIGATION PROJECT
THURSTON COUNTY, NEBRASKA
MISSOURI RIVER MILE 706

April 2013


EXCAVATION LIMIT
DEEPER POOLS
706
N
HORIZONTAL SCALE 1" = 100'-0"
MISSOURI RIVER RECOVERY
SHALLOW WATER HABITAT
HOLE IN THE ROCK CONCEPT DESIGN
RM 705.7 - 706.2
CONCEPT PLAN VIEW
SHEET NUMBER
C0.01
U. S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
OMAHA, NEBRASKA

Appendix B

Agency Coordination

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

HOLE-IN-THE-ROCK BACKWATER EXCAVATION
MISSOURI RIVER FISH AND WILDLIFE MITIGATION PROJECT
THURSTON COUNTY, NEBRASKA
MISSOURI RIVER MILE 706

April 2013

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Nebraska Field Office
203 West Second Street
Grand Island, Nebraska 68801

received
15 Mar 13

March 7, 2013

FWS-NE: 2013-235 (CPA 193)

Mr. Rebecca Bozarth
U.S. Army Corps of Engineers - Omaha District
Planning, Programs and Project Management Section
1616 Capitol Avenue
Omaha, NE 68102-4901

RE: Hole in the Rock Shallow Water Habitat (SWH) Rehabilitation Project, Missouri River, Thurston County, Nebraska

Dear Ms. Bozarth:

This is in response to your February 14, 2013, request for comments and information related to listed species under the Endangered Species Act (ESA) from the U.S. Fish and Wildlife Service (Service) regarding the above mentioned project. The project is located at the west bank of river mile 706 on the Missouri River, Section 36, Township 26 North, Range 9 East and Section 1, Township 25 North, Range 9 East in Thurston County, Nebraska. The purpose of the proposed project is to correct damages that occurred to a constructed backwater during the 2011 flood event, which deposited large amounts of sediment in much of the backwater. Upon completion, the project would result in the restoration and improvement of approximately 7.5 acres of SWH.

AUTHORITIES

The Service has responsibility for conservation and management of fish and wildlife resources for the benefit of the American public under the following authorities: a) ESA; b) Fish and Wildlife Coordination Act (FWCA); c) Bald and Golden Eagle Protection Act (Eagle Act); and d) Migratory Bird Treaty Act (MBTA). The National Environmental Policy Act (NEPA) requires compliance with all of these statutes and regulations. The project proponent and lead federal agency are responsible for compliance with these federal laws.

The Service has special concerns for endangered and threatened species, migratory birds, and other fish and wildlife and their habitats. Habitats frequently used by fish and wildlife species are wetlands, streams, riparian (streamside) woodlands, and grasslands. Special attention is given to proposed developments that include modification of wetlands, stream alteration, loss of riparian habitat, or contamination of habitats. When this occurs, the

Service recommends ways to avoid, minimize, or compensate for adverse affects to fish and wildlife and their habitats.

ENDANGERED SPECIES ACT

Pursuant to section 7 of ESA, every federal agency, in consultation or conference with the Service, is required to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any federally listed or proposed species and/or result in the destruction or adverse modification of designated and/or proposed critical habitat. As discussed above, section 7 consultation with the Service is required if a proposed federal action may affect a federally listed species or federally designated critical habitat.

In accordance with section 7(a) (2) of ESA, the lead federal agency (U.S Army Corps of Engineers [Corps]) should determine if any federally listed threatened or endangered species and/or designated/proposed critical habitat would be directly and/or indirectly affected by their project. The assessment of potential impacts (direct and indirect) must include an affect determination and be presented to the Service in writing. If the Service agrees with the lead federal agency's determination, the Nebraska Ecological Services Field Office in Grand Island, Nebraska would provide a letter of concurrence. If federally listed species and/or designated/proposed critical habitat would be adversely affected by the federal action, the lead federal agency would need to continue section 7 consultation with the Service prior to making any irretrievable or irreversible commitments of resources in support of the proposed project or action.

In accordance with section 7 of ESA, the Service has determined that the following federally listed species may occur in the project area and may be affected by the proposed project.

Listed Species	Expected Occurrence
Pallid sturgeon (*Scaphirhynchus albus*)	Lower Platte River and Missouri River
Western prairie fringed orchid (WPFO) (*Platanthera praeclara*)	Tall-grass prairie and wet meadows

Pallid Sturgeon

The pallid sturgeon was federally listed as an endangered species on September 6, 1990. In Nebraska, the pallid sturgeon is found in the Missouri and lower Platte rivers. Floodplains, backwaters, chutes, sloughs, islands, sandbars, and main channel waters formed the large-river ecosystem that provided macrohabitat requirements for the pallid sturgeon, a species that is associated with diverse aquatic habitats. These habitats historically were dynamic and in a constant state of change due to influences from the natural hydrograph, and sediment and runoff inputs from an enormous watershed spanning portions of ten states and Canada. Navigation, channelization and bank stabilization, loss of connectivity between a river and its floodplain, and hydropower generation projects have caused the widespread loss of this diverse array of dynamic habitats once provided to the pallid sturgeon in the Missouri and Platte Rivers, resulting in a precipitous decline in its population.

The proposed project purpose is to improve habitat and provide benefit for pallid sturgeon as well as other fish assemblages within the Missouri River. However, negative impacts such as entrapment, resulting from this project, may adversely affect pallid sturgeon if present during construction activities. We recommend you avoid construction activities from March 1- June 30, which coincides with the critical migration, spawning, and rearing period for pallid sturgeon.

Western Prairie Fringed Orchid

The WPFO, federally listed as threatened, inhabits tall-grass calcareous silt loam or sub-irrigated sand prairies. Declines in WPFO populations have been caused by the drainage and conversion of its habitats to agricultural production, channelization, siltation, road and bridge construction, grazing, haying, and the application of herbicides. No potential habitat appears to occur within the project area. Therefore, we do not anticipate any adverse effects on WPFO.

REVIEW, COMMENTS, AND RECOMMENDATIONS ON THE PROPOSED PROJECT ACTION UNDER OTHER FISH AND WILDLIFE STATUTES

Fish and Wildlife Coordination Act

1. Water Resources

The FWCA requires consultation with the Service and State fish and wildlife agency for the purpose of giving equal consideration to fish and wildlife resources in the planning, implementation, and operation of federal and federally funded, permitted, or licensed water resource development projects. The FWCA requires that federal agencies take into consideration the effect that water related projects may have on fish and wildlife resources, to take action to avoid impact to these resources, and to provide for the enhancement of these resources.

2. Wetlands, Streams, and Riparian Habitats

If wetlands or streams will be impacted by the proposed project, a Department of the Army permit from the Corps may be needed. The Service will provide FWCA comments pursuant to a permit application. The Service recommends that impacts to wetlands, streams, and riparian areas be avoided or minimized, in accordance with the Section 404(B)(1) Guidelines of the Clean Water Act (Guidelines). For projects that do not require access or proximity to, or location within aquatic environments (i.e., non-water dependent project) to fulfill its basic project purpose, it is assumed that practicable alternatives exist that would cause less damage to aquatic resources than projects that are located in aquatic ecosystems. In addition to determining the least environmentally damaging practicable alternative, 40 CFR Part 230.10(a) of the Guidelines also states, "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences."

If after an alternatives analysis has been completed in accordance with the Guidelines and unavoidable impacts are to occur to aquatic habitats, the Service recommends that compensation (i.e., restoration of a degraded wetland or creation) occur.

We anticipate an overall net benefit to the aquatic resources, which outweighs any temporary, negative impacts to wetlands, streams, and riparian habitat found in the project area.

Bald and Golden Eagle Protection Act

The Eagle Act provides for the protection of the bald eagle *(Haliaeetus leucocephalus)* and golden eagle (*Aquila chrysaetos*). The golden eagle is found in arid, open country with grassland for foraging in western Nebraska and usually near buttes or canyons which serve as nesting sites. Golden eagles are often a permanent resident in the Pine Ridge area of Nebraska. Bald eagles utilize mature, forested riparian areas near rivers, streams, lakes, and wetlands and occur along all the major river systems in Nebraska. The bald eagle southward migration begins as early as October and the wintering period extends from December-March. Additionally, many eagles nest in Nebraska from mid-February through mid-July. Disturbances within 0.5-mile of an active nest or within line-of-sight of the nest could cause adult eagles to discontinue nest building or to abandon eggs.

Both bald and golden eagles frequent river systems in Nebraska during the winter where open water and forested corridors provide feeding, perching, and roosting habitats, respectively. The frequency and duration of eagle use of these habitats in the winter depends upon ice and weather conditions. Human disturbances and loss of wintering habitat can cause undue stress leading to cessation of feeding and failure to meet winter thermoregulatory requirements. These affects can reduce the carrying capacity of preferred wintering habitat and reproductive success for the species. It is possible that a winter roost could be located in the vicinity of the project site given the abundance of large stands of riparian forest located along the river.

To comply with the Eagle Act, it is recommended that the Corps determine whether the proposed project would impact bald or golden eagles. If it is determined that either species could be affected by the proposed project, the Service recommends that the Corps contact this office as well as the Nebraska Game and Parks Commission (Commission) for recommendations to avoid adverse impacts to bald and golden eagles.

Migratory Bird Treaty Act

Under the Migratory Bird Treaty Act (16 U.S.C. 703-712: Ch. 128 *as amended*) (MBTA) construction activities in grassland, roadsides, wetland, riparian (stream), shrubland and woodland habitats, and those that occur on bridges or culverts (e.g., which may affect swallow nests on bridge girders) that would otherwise result in the taking of migratory birds, eggs, young, and/or active nests should be **avoided**. Although the provisions of MBTA are applicable year-round, most migratory bird nesting activity in Nebraska occurs during the period of April 1 to July 15. However, some migratory birds are known to nest outside of the aforementioned primary nesting season period. For example, raptors can be expected to nest

in woodland habitats during February 1 through July 15, whereas sedge wrens, which occur in some wetland habitats, normally nest from July 15 to September 10.

The Service recommends that the project proponent avoid removal or impacts to vegetation during the primary nesting season for migratory birds in Nebraska or April 1 to July 15. In the event that construction work cannot be avoided during peak breeding season, the Service recommends that the project manager (or construction contractor) arrange to have a qualified biologist conduct an avian pre-construction risk assessment of the affected habitats (grassed drainages, streamside vegetation) to determine the absence or presence of breeding birds and their nests. Surveys must be conducted during the nesting season. Breeding bird and nesting surveys should use *appropriate* and *defensible* sampling designs and survey methods to assist the proponent in avoiding the unnecessary take of migratory birds. The Service further recommends that field surveys for nesting birds, along with information regarding the qualifications of the biologist(s) performing the surveys, be thoroughly documented and that such documentation be maintained on file by the project proponent (and/or construction contractor) until such time as construction on the proposed project has been completed.

The Service requests that the following be provided to this office prior to the initiation of the proposed project if the above conditions occur.

a) A copy of any survey(s) for migratory birds done in conjunction with the proposed project, if any. The survey should provide details of the survey methods, date and time of survey, species observed/heard, and location of species observed relative to the proposed project site.

b) Written description of specific work activities that will take place in all proposed project areas.

c) Written description of any avoidance measures that can be implemented at the proposed project site to avoid the take of migratory birds.

Other Comments and Recommendations Specific to the Project

We recommend the Corps pursue further consultation under the ESA to ensure listed species are not adversely affected by the proposed project. The Corps should make a determination of "affect" and submit a request to our office for written concurrence.

The Service appreciates the opportunity to review and comment on the subject project and looks forward to further coordination and consultation with the Corps. Should you have questions regarding these comments, please contact Mr. Rabbe within our office [redacted].

Sincerely,

Michael D. George
Nebraska Field Supervisor

ENCLOSURE

Recommended Best Management Practices for Proposed Construction Activities Associated with Streams/Rivers

- Avoid earth moving activities or fill/bank armoring during native fish spawning periods from May 15 – July 31, construct stream crossings or other associated temporary embankments during low flow periods (usually August – October).

- Minimize work area at stream locations. The majority of the work (including heavy equipment and storage sites) should occur above the high bank line. Avoid driving equipment through the streambed.

- Implement comprehensive and effective erosion and sediment controls. These methods should be implemented and maintained for the duration of the project and considered at all stages of the project planning and design. Close attention is warranted for the placement and maintenance of temporary erosion control measures at the construction site to minimize sediment loading. These erosion/sediment control techniques should keep sediments from entering the stream and remain in place until work areas become re-vegetated and stable. Such erosion control measures may include properly placed sediment/silt screens or curtains and hay bales. Proper techniques are important to the placement of these types of structures and include trenching, staking and backfilling as well as using the appropriate number of bales. These techniques are best used in combination with each other rather than separately.

- Erosion and sediment controls should be monitored daily during construction to ensure effectiveness, particularly after storm events, and only the most effect techniques should be utilized. Clean, repair and replace structures as necessary.

- Exposed stream banks must be stabilized immediately after construction activity. Eroded surfaces should not be left exposed for greater than one day. If rain is predicted, no construction should commence unless eroded surfaces are immediately treated with geotextile fabric, mulch, seeding or some techniques that would stabilize the bank or exposed areas from eroding.

- Erosion repair and stream bank restoration should use appropriate bioengineering solutions.

- Develop and implement a hazardous materials safety protocol. This would include that all temporary storage facilities for petroleum products, other fuels and chemicals must be located and protected to prevent accidental spills from entering streams within the project area.

FISRWG. 1998. Stream Corridor Restoration: Principles, Processes, and Practices. By the Federal Interagency Stream Restoration Working Group (FISRWG) (15 Federal agencies of the U. S. Government). GPO item No. 0120–A; SuDocs No. A 57.6/2:EN 3/PT.653. ISBN-0-934213-59-3.

From: Chafa, Doug [DNR]
Sent: Monday, March 11, 2013 4:25 PM
To: Peterson, Scott [DNR]
Cc: Sterner, Van [DNR]; Hildreth, Pete [DNR]
Subject: RE: COE proposed work for Hole-in-the-Rock

For the Hole-in-the-Rock project in general, dredging out the backwater to preflood conditions should be supported. It will provide beneficial habitat for both fish and wildlife. The 10:1 slope will provide an important foraging site over a wide range of river levels for mammals such as mink, raccoon, and otter as well as shorebirds, wading birds, and some waterfowl like mergansers. The overwintering holes will be important for turtle hibernation sites and should be 10 to 12 deep during winter flows or 17 to 20 ft below the 50% August exceedance flows.

Van and I were not able to get together on this in person, so I'm going to add in what I remember of his comments from the coordination meeting in January when the group discussed this project so you will have something prior to the COE's March 14th deadline. We will both be out of town to the River conference until Thursday.

Since the river drops 4 to 5 feet after navigation season ends, the overwintering holes should be 17 to 20 ft below the 50% August exceedance flow to be effective at overwintering fish. One of the two overwintering holes should be moved closer to the mouth of the backwater to be more useful to riverine species.

Doug Chafa

Iowa DNR

Missouri River Wildlife Unit Biologist

21914 Park Loop Rd

Onawa, IA 51040

NEBRASKA GAME PARKS

Nebraska Game and Parks Commission

2200 N. 33rd St. ▪ P.O. Box 30370 ▪ Lincoln, NE 68503-0370 ▪ Phone: 402-471-0641 ▪ Fax: 402-471-5528

March 25, 2013

Eric Laux
U.S. Army Corps of Engineers
1616 Capitol Avenue
Omaha, NE 68102-4901

RE: Hole-in-the Rock shallow water habitat rehabilitation, post-flood of 2011, Thurston County

Dear Mr. Laux:

Nebraska Game and Parks Commission (NGPC) staff members have reviewed the information for the proposal identified above. The flooding event of 2011 caused sediment to deposit in much of the existing backwater. Sediment would be excavated with a hydraulic dredge and discharged into the Missouri river. This project would restore the functionality of shallow water habitat features at Hole-in-the Rock.

Based on our review of the Nebraska Natural Heritage database, aerial photographs, and the information you sent, we have determined that several state-listed threatened and endangered species may be found in the vicinity of the project area, including state endangered pallid sturgeon (*Scaphirhyncus albus*), state threatened lake sturgeon (*Acipenser fulvescens*), state endangered sturgeon chub (*Macrhybopsis gelida*), and state threatened American ginseng (*Panax quinquefolium*).

Pallid sturgeon feed on small fish and invertebrates and is known to use sites with sharp slopes associated with downstream edges of submerged riverine sandbars. Most occurrence records of the fish are near confluences, islands, and at the downstream margins of sandbars. This fish spawns between March 1 and June 30, dependent on river conditions. If any construction activities would disturb the river, they should be scheduled to avoid the spawning timeframe for this species. Construction activities that should be scheduled accordingly would include the river connection at the mouth of the backwater and the discharge of material into the thalweg of the river in order to avoid altering habitat prior to spawning, covering of eggs, and altering up and downstream movements of pallid sturgeon.

Lake sturgeon occupies similar habitats as the pallid sturgeon. Lake sturgeon feed on invertebrates and small fish and can be found at the downstream margins of island and river confluences. This species spawns between February 1 and July 31, depending on river conditions. If any construction activities

would disturb the river, they should be scheduled to avoid the spawning timeframe for this species. Construction activities that should be scheduled accordingly are similar to those mentioned above for pallid sturgeon.

Sturgeon chub are associated with fast flowing, turbid water and gravel substrate. The species has been collected in side chutes and backwaters, as it is thought that these kinds of areas provide spawning habitat to the fish. Sturgeon chub feed on invertebrates. This species spawns between February 1 and July 31, dependent on river conditions. Construction activities should be scheduled to avoid the spawning period for this species.

American ginseng is a long-lived herbaceous perennial that is very similar in appearance to several closely related and much more abundant species. In Nebraska, ginseng grows only in deep woods in shady ravines found along the Missouri River bluffs of the easternmost counties. Based on the project details provided, this project does not look to impact Missouri River bluff woodlands, therefore, this project is not likely to have an adverse impact on this species.

Overall, we are supportive of the proposed modifications to restore the backwater habitat Hole-in-the Rock. These off-channel habitats are important components of a functioning river, as they provide aquatic and terrestrial habitat diversity that was lost due to past modifications of the Missouri River. The re-establishment of the backwater will likely benefit many fish and wildlife species. We would have no objection to the discharge of the spoil material into the thalweg of the River, as long as it is timed to avoid negative impacts to the above-mentioned listed fish species.

Under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712: Ch 128 *as amended*) construction activities in grassland, wetland, stream, and woodland habitats that would otherwise result in the taking of migratory birds, eggs, young, and/or active nests should be avoided. The primary nesting season for migratory birds is from April 1 to July 15. However, some species of migratory birds are known to nest outside of this period. Construction activities should be scheduled to avoid impacting migratory bird nesting. If this is not feasible, then a survey will be needed.

The federal Bald and Golden Eagle Protection Act (Eagle Act) provides for the protection of the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*). Bald eagles utilize mature, forested riparian areas near rivers, streams, lakes, and wetlands and occur along all the major river systems in Nebraska. The bald eagle southward migration begins as early as October and the wintering period extends from December-March. Additionally, many bald and golden eagles nest in Nebraska from mid-February through mid-July. Disturbances within 0.5-mile of an active nest or within line-of-sight of the nest could cause adult eagles to discontinue nest building or to abandon eggs. Both bald and golden eagles frequent river systems in Nebraska during the winter where open water and forested corridors provide feeding, perching, and roosting habitats, respectively. To comply with the Eagle Act, it is recommended that the project proponent determine whether the proposed project would impact bald or golden eagles during the nesting season or wintering period. If it is determined that either species could be affected by construction of the proposed project, we recommend that the project proponent notify this office as well as the U.S. Fish and Wildlife Service for recommendations to avoid adverse impacts to bald and golden eagles.

Thank you for the opportunity to review this proposal. If you have any questions regarding these comments, please contact me [redacted].

Sincerely,

Carey Grell
Environmental Analyst
Environmental Services Division

ec: Frank Albrecht, NGPC
Gerald Mestl, NGPC

Appendix C

Elutriate Samples

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

HOLE-IN-THE-ROCK BACKWATER EXCAVATION
MISSOURI RIVER FISH AND WILDLIFE MITIGATION PROJECT
THURSTON COUNTY, NEBRASKA
MISSOURI RIVER MILE 706

April 2013

Attachment 1

CQAB Lab Project # 7017

DEPARTMENT OF THE ARMY
USA Engineering Research Development Center
Chemical Quality Assurance Branch Lab
Omaha, Nebraska

Subject: Elutriate Testing Report Series # 01-01

Project: Hole-In-The-Rock Proposed Dredging Site
Intended Use:
Source of Material: Hole-In-The-Rock Near Macy, NE, Omaha Reservation
Trip # EDXWAO012004

Submitted by: Bill Otto/Luke Wallace
Date Sampled: 01-20-04 , Date Received: 01-20-04
Method of Test or Specification: EPA and Standard Methods

References: 1. Omaha District Request #
2. CQAB Lab #s M040043-001 to M040043-003

-- REMARKS --

1. Three sediment and water samples collected from Hole-In-The-Rock Proposed Dredging Site, near Macy, NE, Omaha Reservation location were received in the laboratory for analyses. No major problem was encountered during the receipt of samples. The samples were analyzed using EPA Methods.

2. Test results are shown on the attached sheets.

3. If you have any question regarding test results, please call Prem N. Arora at (402)444-4318.

Submitted by:

Douglas B. Taggart

DOUGLAS B. TAGGART
Chief, CQAB Laboratory

Arora/CG/444-4318

DEPARTMENT OF THE ARMY
Corps of Engineers
Environmental Chemistry Branch

Omaha, NE

Project Name:	Hole-in-the-Rock - Proposed Dredging Site (7017)		
MRD LAB Sample No:	M040043-003	Date Taken:	20-JAN-04
Customer Sample ID:	3HIR	Date Received:	20-JAN-04
		Container (Water):	1 L PolyBottles (HIR-Water)
Sample Description:	Water and Sediment	Container (Sediment):	1 gal glass

Analysis	Sediment Result	Units	Receiving Water Result	Units	Elutriate Water Result	Units
Ammonia-Nitrogen as N	13	mg/kg	1.0	mg/L	3.8	mg/L
Chemical Oxygen Demand	-	-	6	mg/L	16	mg/L
Turbidity	-	-	9	NTU	3	NTU
Total Suspended Solids	-	-	14	mg/L	-	mg/L
PH	7.7	Units	8.4	Units	8.2	Units
Atrazine	u	mg/kg	u	ug/L	u	ug/L
Biochemical Oxygen Demand	-	mg/L	u	mg/L	u	mg/L
Iron	26200	mg/kg	50	ug/L	50	ug/L
Copper	26	mg/kg	u	ug/L	u	ug/L
Lead	15	mg/kg	u	ug/L	u	ug/L

Definitions

u: Below Sample Detection Limit (MDL x Dilution)

420 South 18th Street Omaha, NE 68102

Fax: (402) 341-5448
Phone: (402) 444-4300

DEPARTMENT OF THE ARMY
Corps of Engineers
Environmental Chemistry Branch

Omaha, NE

Project Name:	Hole-in-the-Rock - Proposed Dredging Site (7017)		
MRD LAB Sample No:	M040043-001	Date Taken:	20-JAN-04
Customer Sample ID:	1HIR	Date Received:	20-JAN-04
		Container (Water):	1 L PolyBottles (HIR-Water)
Sample Description:	Water and Sediment	Container (Sediment):	1 gal glass

Analysis	Sediment Result	Units	Receiving Water Result	Units	Elutriate Water Result	Units
Ammonia-Nitrogen as N	u	mg/kg	1.0	mg/L	0.73	mg/L
Chemical Oxygen Demand	-	-	6	mg/L	7	mg/L
Turbidity	-	-	9	NTU	0.4	NTU
Total Suspended Solids	-	-	14	mg/L	-	mg/L
PH	8.5	Units	8.4	Units	8.4	Units
Atrazine	u	mg/kg	u	ug/L	u	ug/L
Biochemical Oxygen Demand	-	mg/L	u	mg/L	u	mg/L
Iron	11800	mg/kg	50	ug/L	60	ug/L
Copper	8	mg/kg	u	ug/L	u	ug/L
Lead	8	mg/kg	u	ug/L	u	ug/L

Definitions

u: Below Sample Detection Limit (MDL x Dilution)

420 South 18th Street Omaha, NE 68102

Fax: (402) 341-5448
Phone: (402) 444-4300

DEPARTMENT OF THE ARMY
Corps of Engineers
Environmental Chemistry Branch

Omaha, NE

Project Name:	Hole-in-the-Rock - Proposed Dredging Site (7017)		
MRD LAB Sample No:	M040043-002	Date Taken:	20-JAN-04
Customer Sample ID:	2HIR	Date Received:	20-JAN-04
		Container (Water):	1 L PolyBottles (HIR-Water)
Sample Description:	Water and Sediment	Container (Sediment):	1 gal glass

Analysis	Sediment Result	Units	Receiving Water Result	Units	Elutriate Water Result	Units
Ammonia-Nitrogen as N	u	mg/kg	1.0	mg/L	0.74	mg/L
Chemical Oxygen Demand	-	-	6	mg/L	9	mg/L
Turbidity	-	-	8.6	NTU	3	NTU
Total Suspended Solids	-	-	14	mg/L	-	mg/L
PH	7.9	Units	8.4	Units	8.3	Units
Atrazine	u	mg/kg	u	ug/L	u	ug/L
Biochemical Oxygen Demand	-	mg/L	u	mg/L	u	mg/L
Iron	25700	mg/kg	50	ug/L	40	ug/L
Copper	28	mg/kg	u	ug/L	u	ug/L
Lead	15	mg/kg	u	ug/L	u	ug/L

Definitions

u: Below Sample Detection Limit (MDL x Dilution)

420 South 18th Street Omaha, NE 68102

Fax: (402) 341-5448
Phone: (402) 444-4300

TP SP #: EDKWA001/2004

7017

Analytical Request Form

1-20-04.

Hole-in-the-Rock Proposed dredging site, near MACY, NE, Omaha Reservation

id	DT	Tm	MATL	Amt
1 HIR	1-20-04	10:45	soil	1gal
2 HIR	1-20-04	11:40	soil	1gal
3 HIR	1-20-04	12:30	soil	1gal
HIR-WATER	1-20-04	X	WATER	19 L

Collected by - Bill Otto, Nathan Binks, Larry Wehrig

del by - Bill Otto

Rec'd by - Ted Thamson 1/20/04 14:50

- For Parameters contact Luke Wallace @ 221-4885

Appendix D

Regional General Permit 11-02

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

HOLE-IN-THE-ROCK BACKWATER EXCAVATION
MISSOURI RIVER FISH AND WILDLIFE MITIGATION PROJECT
THURSTON COUNTY, NEBRASKA
MISSOURI RIVER MILE 706

April 2013

DEPARTMENT OF THE ARMY PERMIT

Permittee: General Public

Permit No.: 11-02 (2011-2364)

Issuing Office: Omaha District, Nebraska Regulatory Office

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: This Regional General Permit authorizes the following flood protection, reconstruction and repair work for flood damaged areas:

(1) Repair and reconstruction of existing roads.
(2) Construction of temporary roads.
(3) Construction of temporary levees, dikes and berms.
(4) Repair of levees including breach closures.
(5) Protection (e.g. armoring) and/or repair of bridge and linear transportation embankments.
(6) Protection and/or repair of utility structures.
(7) Placement of suitable material for bank stabilization.
(8) Construction of temporary drainage ditches to facilitate the removal of flood water, sheetwater, or excess water.
(9) Restoration of channels and ditches to pre-flooding alignment and capacity.
(10) Protection and restoration of intake and outfall structures.
(11) In-stream disposal of flood-deposited sand/silt material up to 100,000 cubic yards of material per activity. Authorization of in-stream disposal of flood-deposited sand/silt material will be determined on a case-by-case basis. Issues considered will include total and daily amounts of proposed disposal, method of disposal, location of disposal, concurrent disposal activities, time of year and flow rates.

Project Location: Waters of the United States, including wetlands, in the State of Nebraska and the Missouri River in the State of Iowa

This Regional General Permit expires on March 31, 2017

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **See Special Condition 1 on page 5**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the River and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time circumstances. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

ROBERT J. RUCH
District Commander
Colonel, Corps of Engineers

By: Martha S Chieply
MARTHA S. CHIEPLY
Chief, Regulatory Branch
Operations Division

Date: 13 March 2012

*U.S. GPO: 1988-520-324

APPLICATION PROCEDURES

All interested parties proposing work under this Regional General Permit are required to contact:

U.S. ARMY CORPS OF ENGINEERS
NEBRASKA REGULATORY OFFICE – WEHRSPANN
8901 SOUTH 154TH STREET, SUITE 1
OMAHA, NEBRASKA 68138-3621

FAX: 402-896-0997

The following information is required:

1. Name, address, and telephone number of the landowner and the person responsible for the work if other than the landowner.

2. A written description of the proposed work, including the purpose and need; type, composition and volume of fill and/or excavated material; length, width and depth of fill material and/or excavation area; disposal site for the fill and/or excavated material; borrow site for fill material; types of equipment to be used; and impacts to wetlands, streams or other waters of the United States.

3. A written legal description of the project location including section, township, range, and county.

4. Names, addresses, and telephone numbers of adjacent property owners.

5. A set of drawings on 8 1/2 by 11 inch paper, with dimensions of the proposed work, showing:
   a. The project location identified on an aerial map, including the disposal site locations.
   b. A plan or top view of the project area.
   c. A typical cross-section or side view of the project area.
   d. Photographs of the project area.
   e. As applicable, a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.

6. Mitigation to offset impacts to wetlands and streams may be required. The Nebraska Regulatory Office will make this determination at the appropriate time.

7. For all activities located on tribal land, the Nebraska Regulatory Office will coordinate the project with the applicable tribe prior to authorization.

8. No project may proceed until notification approval has been received from the Nebraska Regulatory Office that the proposal meets the Regional General Permit criteria.

NOTE: Permittees proposing work in the Missouri River in the State of Iowa should also submit the above information to the Iowa Department of Natural Resources. It is recommended the information be submitted using the Joint Application Form, "Protecting Iowa Waters", found at: http://floodplain.iowadnr.gov

SPECIAL CONDITIONS

Any authorization granted under this Regional General Permit is subject to the following conditions:

1. Upon receiving approval to perform work under this RGP, the permittee will have 180 days to complete the work. If additional time is needed to complete the authorized activity, a written request for a time extension must be submitted to the Nebraska Regulatory Office.

2. This RGP authorizes the discharge of dredged or fill material and other work associated with flood protection measures and restoration, repair or reconstruction measures performed in waters of the U.S. within the States of Nebraska and Iowa as a result of damages caused by flooding. The work will be limited to that authorized by the Corps through the issuance of the RGP.

3. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency (e.g., National Park Service) with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

The following link provides a map showing the location of the Niobrara National Scenic River:
http://www.nps.gov/carto/PDF/NIOBmap1.pdf

The following link provides a map showing the location of the Missouri National Recreational River:
http://www.nps.gov/mnrr/planyourvisit/maps.htm

The following link provides a map showing the location of the Nebraska rivers listed on the National River Inventory list:
http://www.nps.gov/ncrc/programs/rtca/nri/states/ne.html

4. All channel restoration work will be limited to restoring the area to pre-flood conditions and verified using U.S. Department of Agriculture, Natural Resource Conservation Service aerial photographs, or other qualifiable data, plans, etc.

5. Repair measures authorized herein do not allow for improved drainage of legally drained wetlands or new, permanent drainages that would result in the lowering of basin water retention capacity and/or impacts to the wildlife value of that wetland.

6. All temporary drainage ditches must be restored to pre-flood conditions within 90 days of the end of the flooding conditions.

7. Repair measures authorized herein are to restore areas to pre-flood conditions. Minor deviations may be authorized.

8. Repair and protection measures authorized herein do not allow for the construction of structures (e.g. jetties) which would result in any further stream channel constriction or in the redirection of flows in such a way as to cause upstream or downstream erosion.

9. Temporary levees, accesses, and other fills must involve the least damaging and minimum amount of disturbance/impacts to waters of the United States. Appropriate measures must be taken to maintain near normal downstream flows to minimize flooding.

10. All sediment disposed of in-stream must be free of large wood or other debris.

11. All fill must be of suitable materials and placed in such a manner that the material will not be eroded by expected high flows.

12. All fill material will be obtained from a non-wetland, upland source.

13. The permittee is responsible for ensuring that the Corps is notified of the location of any borrow site that will be used in conjunction with the construction of the authorized activity so that the Corps may evaluate the site for potential impacts to aquatic resources, historic properties, and endangered species. For projects where there is another lead Federal agency, the

permittee shall provide the Corps documentation indicating that the lead Federal agency has complied with the National Historic Preservation Act and Endangered Species Act for the borrow site. The permittee shall not initiate work at the borrow site in conjunction with the authorized activity until approval is received from the Corps.

14. The use of small aggregate, such as streambed material, for bank stabilization and erosion control is prohibited. All erodible fill material associated with bank stabilization must be stabilized.

15. Mitigation plans will be developed in accordance with the 2008 Mitigation Rule and coordinated with the applicable resource agencies on a case-by-case basis.

16. All temporary fills, including sandbags, in waters of the United States must be completely removed and the area restored to pre-flood conditions within 90 days of the end of flooding conditions.

17. Only clean riprap materials will be utilized in order to avoid the percolation of fines that would result in excessive local turbidity.

18. All areas adjacent (contiguous, bordering, neighboring) to jurisdictional waters disturbed by construction shall be revegetated with appropriate perennial native grasses and forbs and maintained in this condition. *Phalaris arundinacea* (Reed Canary Grass), *Lythrum salicaria* (Purple Loosestrife), *Bromus inermus* (Smooth Brome), *Phragmites, sp.* (Common Reed, River Reed) and *Tamarix, sp.* (Salt Cedar), are *NOT* appropriate choices of vegetation. A cover crop may be planted to aid in the establishment of native vegetation. The disturbed areas shall be reseeded concurrent with the project or immediately upon completion. Revegetation shall be acceptable when ground cover of desirable species reaches 75%. If this seeding cannot be accomplished by September 15 the year of project completion, then an erosion blanket shall be placed on the disturbed areas. The erosion blanket shall remain in place until ground cover of desirable species reaches 75%. If the seeding can be accomplished by September 15, all seeded areas shall be properly mulched to prevent additional erosion. When the vegetation has become established, all temporary erosion control materials shall be removed from the project site. Biodegradable or photodegradable materials need not be removed.

19. For bank protection activities, the riprap revetment shall be covered, from the top of the structure down to the annual ordinary high water line, with a minimum of six inches of soil compacted into the voids of the riprap and immediately seeded with either annual rye grass, oats and/or wheat (nurse crop) plus a mixture of native grass species. The Corps must be notified that this has been completed with photo documentation and seed tags.

20. The clearing of vegetation, including trees located in or immediately adjacent to waters of the United States, will be limited to that which is absolutely necessary for construction of the project.

21. All construction debris will be disposed of on an approved upland site in such a manner that it cannot enter a waterway or wetland. The permittee will establish and carry out a plan for immediate removal of debris during construction in order to prevent the accumulation of unsightly, deleterious and/or potentially polluted materials.

22. Equipment for handling and conveying materials during construction will be operated to prevent dumping or spilling materials into the water except as approved herein.

23. All dredged or excavated materials, with the exception of that authorized herein, will be placed on an upland site above the ordinary high water line in a confined area, not classified as a wetland, to prevent the return of such materials to the waterway.

24. Concrete trucks will be washed at a site and in such a manner that washwater cannot enter the waterway.

25. During construction, no petroleum products, chemicals, or other deleterious materials shall be allowed to enter or be disposed of in such a manner so that they could enter the water and that precautions be taken to prevent entry of these materials into the water.

26. All work in the waterway will be performed in such a manner so as to minimize increases in suspended solids and turbidity that may degrade water quality and damage aquatic life outside the immediate area of operation.

27. All earthwork operations on shore will be carried out in such a manner that sediment runoff and soil erosion to the waterbody are controlled.

28. If and when the District Commander has been notified that a dredging or filling activity is adversely affecting fish or wildlife resources or the harvest thereof and the District Commander subsequently directs remedial measures, the permittee will comply with such directions as may be received to suspend or modify the activity to the extent necessary to mitigate or eliminate the adverse effect as required.

29. The use of machinery in the waterway will be kept to a minimum.

30. A discharge of material may not occur in the proximity of a public water supply unless appropriate approval is given and mitigation measures are identified to offset any adverse effects.

31. If the Corps is notified that work being performed does not comply with, or fall within the scope of, this RGP, the responsible party will take immediate steps, as directed by the Corps, to bring the work into compliance with this permit.

32. If threatened or endangered species are sighted at or near the project site, particularly during construction, work must cease and the Nebraska Regulatory Office and U.S. Fish and Wildlife Service contacted immediately.

33. The permittee, the permittee's contractor or any of the employees, subcontractors or other person working in the performance of the contract shall immediately report the discovery of subsurface features, possible scientific, prehistorical, historical, or archeological data, giving the location and nature of the findings to the State Historic Preservation Officer and the Nebraska Regulatory Office. If discoveries occur on an Indian Reservation, the applicable Tribal Historic Preservation Officer and Nebraska Regulatory Office shall be notified. The permittee shall cease construction or operation at the site of any cultural resource discovery. Work shall not begin until notified by the Nebraska Regulatory Office.

34. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

35. Modification of any existing Federal navigation structure (e.g., revetment, dike, levee, etc.) is NOT authorized by this RGP.

36. Due to public safety concerns and potential structural instability, no equipment shall be staged on Federal navigation structures.

37. The District Commander may require additional special conditions be included in any authorization issued under this RGP to avoid or minimize adverse environmental impacts. The District Commander may also require the processing of an individual permit for an activity determined to have more than minimal adverse environmental effects, individually or cumulatively, or would be contrary to the public interest.

Dave Heineman
Governor

STATE OF NEBRASKA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Michael J. Linder
Director
Suite 400, The Atrium
1200 'N' Street
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Lincoln, Nebraska 68509-8922
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FAX (402) 471-2909
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JAN 27 2012

Ms. Cheryl Goldsberry
U.S. Army Corps of Engineers, Omaha District
Regulatory Branch
1616 Capitol Avenue
Omaha, Nebraska 68102

RE: State Water Quality Certification for Regional General Permit 11-02 (2011-02364) regarding flood-related protection, reconstruction and repair activities, in waters of the State of Nebraska.

Dear Ms. Goldsberry:

We have reviewed the information received regarding the above-referenced application under the authority of Section 401 of the Clean Water Act of 1977, as amended by the Water Quality Act of 1987.

We therefore, by this letter, provide Section 401 Water Quality Certification. This certification does not constitute authorization to conduct the activity. It is a statement of compliance with Surface Water Quality Standards only, which is one requirement to gain authorization from the U.S. Army Corps of Engineers in the form of a Section 404 permit. If you have any questions, please feel free to call Mary Schroer on my staff, [redacted].

Sincerely,

Marty Link
Acting Water Quality Division Administrator

cc: Mike George , US Fish & Wildlife Service
Carey Grell, Nebraska Game & Parks Commission
Eliodora Chamberlain, US Environmental Protection Agency

Fields of Opportunities

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
ROGER L. LANDE, DIRECTOR

February 14, 2012

Ms. Martha S. Chieply
Chief, Regulatory Branch
U.S. Army Corps of Engineers
Nebraska Regulatory Office - Wehrspann
8901 South 154th Street, Suite 1
Omaha, NE 68138-3621

Subject: Section 401 Water Quality Certification for Regional General Permit 11-02

Dear Ms. Chieply,

The Iowa Department of Natural Resources is granting Section 401 Water Quality Certification for Regional General Permit 11-02 with the following condition:

- Work proposed within the State of Iowa must be reviewed by Iowa Department of Natural Resources Flood Plain and Sovereign Lands sections to determine if permits are required. Please submit project information using the Joint Application Form, "Protecting Iowa Waters", found at: http://www.iowadnr.gov/InsideDNR/RegulatoryLand/FloodPlainManagement/FloodPlainDevPermits.aspx . Submittal of this form with the listed information will prompt concurrent review by both the Flood Plain Management Program (Toll Free Help Line: 1-866-849-0321) and the Sovereign Lands/Environmental Review Program.

Please provide me with copies of the permits issued for projects within the State of Iowa.

If you have any questions or comments regarding this Section 401 Water Quality Certification, please contact me at the address shown below [redacted].

Sincerely,

Christine M. Schwake

Christine M. Schwake
Environmental Specialist